

REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed August 18, 2008. In the Office Action, the Examiner notes that claims 1-4, 6-8, 19, and 21-34 are pending and rejected.

In view of the foregoing amendments and the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of the claims are now in allowable form.

It is to be understood that Applicants do not acquiesce to the Examiner's characterizations of the art of record or to Applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing the instant response including amendments.

Rejection under 35 U.S.C. §103

Claims 1-4, 6-8, 19 and 21-24

The Examiner has rejected claims 1-4, 6-8, 19 and 21-24 under 35 U.S.C. 103 as being unpatentable over Ueno et al. (U.S. Patent No. 6,438,596, hereinafter "Ueno") in view of Wahl (U.S. Patent No. 5,898,456, hereinafter "Wahl"). Applicants respectfully traverse the rejection.

In general, Ueno teaches a video on demand system that presents users with a selection list of proposed videos for which server and network resources are available to immediately serve the selection video. A service control unit determines whether server and network resources are available by sending separate queries to server and network resources management control units. (Ueno, Abstract) In particular, Ueno discloses a hierarchical system of video servers including at least one center server and at least one local server. The local servers store video sources with a high expected frequency of access. The center servers store video sources with a low expected frequency of access. (Ueno, Col. 18, Lines 6-12).

Ueno, however, fails to teach or suggest Applicants' claim 1. Namely, Ueno fails to teach or suggest a plurality of head-ends where each head-end includes a server,

storage, and manager, where the manager dynamically manages storage of video assets in primary and secondary storage partitions of the head-ends. Ueno also fails to teach or suggest that the manager, in response to an infrequently requested video asset becoming frequently requested, selects a plurality of head-ends to store said frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in respective primary storage partitions of the selected ones of the head-ends. Ueno also fails to teach or suggest that the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the head-ends to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in a respective secondary storage partition of the selected one of the head-ends.

Rather, Ueno merely teaches that a center server stores videos having a low frequency in access and that local servers store videos having a high frequency in access. The storage of high frequency videos in local servers and low frequency videos in a center server, as taught in Ueno, does not teach or suggest each of a plurality of head-ends storing frequently requested videos assets and infrequently requested video assets using a storage having a primary storage partition and a secondary storage partition, as claimed in Applicant's claim 1.

As such, Ueno fails to teach or suggest at least the limitations of "each of said head-ends comprising: a server for distributing requested video assets to requesting subscriber equipment via said access network coupled between each of said plurality of head-ends and said respective subscriber equipment; a storage having a primary storage partition for storing frequently requested video assets and a secondary storage partition for storing infrequently requested video assets, said infrequently requested video assets being distributed amongst said secondary partitions of said head-ends; and a manager for managing migration of video assets, wherein said manager tracks asset request rates and threshold rates of respective video assets," as claimed in Applicants' claim 1.

Furthermore, as acknowledged by the Examiner in the Office Action, Ueno fails to teach or suggest the limitations of "wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects ones of the

head-ends to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset; wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the head-ends to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in the respective secondary storage partition of the one of the head-ends selected to store the infrequently requested video asset,” as claimed in Applicants’ claim 1.

Furthermore, Wahl fails to bridge the substantial gap between Ueno and Applicants’ claim 1.

In general, Wahl discloses a hierarchical server structure having a central server and multiple local servers. As disclosed in Wahl, a request for a movie by a user being served by a local server is attempted to be served from the local server, but if the local server is unable to provide the movie then the central server or another local server serves the request using a switched connection between the user and the central server or the other local server. (Wahl, Abstract). As further disclosed in Wahl, the central server compares movie request values of respective movies, for a given local server, in order to determine whether or not to copy one of the movies from the central server to the local server. (Wahl, Col. 5, Line 64 – Col. 6, Line 26).

Wahl, however, alone or in combination with Ueno, fails to teach or suggest Applicants’ claim 1, as a whole. Namely, Wahl fails to teach or suggest at least the limitations of “wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects a plurality of the head-ends to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset” and “wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the head-ends to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in the respective secondary storage partition

of the one of the head-ends selected to store the infrequently requested video asset," as claimed in Applicants' claim 1.

First, Applicants note that Wahl fails to teach or suggest an infrequently requested video asset becoming frequently requested or a frequently requested video asset becoming infrequently requested. Rather, Wahl discloses comparisons between request rates of different movies. Specifically, Wahl states that "[i]n the configuration example of FIG. 4, the control facility CL1 of the local server SL1 causes the transmission of the movie request value FAW_{A1} for the movie A1 and the server SL1, and the transmission of the movie request value FAW_{A10} for the movie A10 and the server SL1, via a connection between the local server SL1 and the central server SM. The control facility CM of the central server SM receives the transmitted movie request values and compares them to the movie request value FAW_{B2} in table TABM for the movie B2 and the server SL1. In the present configuration example, the control facility CM thereby determines that the movie request value FAW_{B2} for the movie B2 and the server SL1 is greater than the movie request value FAW_{A10} for the movie A10 and server SL1, transmitted by the local server SL1. This means that the integrated requesting rate for the movie B2 by users U11 . . . U13, who are assigned to the local server SL1, is greater than the integrated requesting rate for the movie A10 by user U10, who is also assigned to the local server SL1. However, since the movie B2 must be transmitted over a geographically longer distance from the central server SM to the respective users U11 . . . U13, instead of the short distance between the local server SL1 and the users, the control facility CM of the central server SM causes the movie B2 to be copied to the memory SPL1 of the local server SL1." (Wahl, Col. 5, Line 64 – Col. 6, Line 26, Emphasis added). In other words, Wahl merely discloses comparisons of relative movie request rates of different movies. Wahl is devoid of any teaching or suggestion of any determination that an infrequently requested video asset becomes frequently requested or that a frequently requested video asset becomes infrequently requested. For example, Wahl does not teach any determination as to whether movie A10 switches from being infrequently requested to frequently or vice versa; rather, Wahl merely discloses determining whether the movie request value of movie A10 is less than or greater than the movie request value of a different movie, e.g., movie B2. Thus, Wahl fails to teach or suggest that a manager performs any action in response to an

infrequently requested video asset becoming frequently requested or in response to a frequently requested video asset becoming infrequently requested, as claimed in Applicants' claim 1.

Second, Applicants note that Wahl fails to teach or suggest that a manager selects a plurality of head-ends to store frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset. Rather, Wahl merely discloses that a central server may copy movies to local servers on a per local server basis (i.e., a given movie is copied from the central server to a single local server based on the movie request rates of movies being requested by users being served by that local server). Specifically, again citing the portion of Wahl cited hereinabove, Wahl states that "[i]n the configuration example of FIG. 4, the control facility CL1 of the local server SL1 causes the transmission of the movie request value FAW_{A1} for the movie A1 and the server SL1, and the transmission of the movie request value FAW_{A10} for the movie A10 and the server SL1, via a connection between the local server SL1 and the central server SM. The control facility CM of the central server SM receives the transmitted movie request values and compares them to the movie request value FAW_{B2} in table TABM for the movie B2 and the server SL1. In the present configuration example, the control facility CM thereby determines that the movie request value FAW_{B2} for the movie B2 and the server SL1 is greater than the movie request value FAW_{A10} for the movie A10 and server SL1, transmitted by the local server SL1. This means that the integrated requesting rate for the movie B2 by users U11 . . . U13, who are assigned to the local server SL1, is greater than the integrated requesting rate for the movie A10 by user U10, who is also assigned to the local server SL1. However, since the movie B2 must be transmitted over a geographically longer distance from the central server SM to the respective users U11 . . . U13, instead of the short distance between the local server SL1 and the users, the control facility CM of the central server SM causes the movie B2 to be copied to the memory SPL1 of the local server SL1." (Wahl, Col. 5, Line 64 – Col. 6, Line 26, Emphasis added). In other words, Wahl merely discloses that a movie is copied from a central server to a single local server. Wahl is devoid of any teaching or suggestion that a movie is copied to multiple local servers. Thus, Wahl fails to teach or

suggest “wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects ones of the head-ends to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset,” as claimed in Applicants’ claim 1.

Thus, since Ueno and Wahl each fail to teach or suggest the limitations of “wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects a plurality of the head-ends to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset; wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the head-ends to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in the respective secondary storage partition of the one of the head-ends selected to store the infrequently requested video asset,” a combination of Ueno and Wahl fails to teach or suggest the limitations of “wherein the manager, in response to an infrequently requested video asset becoming frequently requested, selects a plurality of the head-ends to store the frequently requested video asset and transmits the frequently requested video asset to the selected ones of the head-ends for storage in the respective primary storage partitions of the ones of the head-ends selected to store the frequently requested video asset; wherein the manager, in response to a frequently requested video asset becoming infrequently requested, selects one of the head-ends to store the infrequently requested video asset and provides the infrequently requested video asset to the selected one of the head-ends for storage in the respective secondary storage partition of the one of the head-ends selected to store the infrequently requested video asset,” as claimed in Applicants’ claim 1.

Therefore, Ueno and Wahl, alone or in combination, fail to teach or suggest Applicants’ claim 1, as a whole.

Thus, Applicants submit that independent claim 1 is patentable over Ueno and Wahl under 35 U.S.C. §103. Independent claim 19 recites relevant limitations similar to those recited in independent claim 1. As such, for at least the reasons set forth hereinabove with respect to claim 1, Applicants respectfully submit that Ueno and Wahl, alone or in combination, also fail to teach or suggest Applicants' claim 19, as a whole. Furthermore, claims 2-4, 6-8, and 21-24 depend, either directly or indirectly, from independent claims 1 and 19, and recite similar features thereof. As such, and at least for the same reasons as discussed above, Applicants submit that claims 2-4, 6-8, and 21-24 also are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Therefore, Applicants respectfully request that the rejections be withdrawn.

Claims 25-34

The Examiner has rejected claims 25-34 under 35 U.S.C. 103 as being unpatentable over Ueno et al. (U.S. Patent No. 6,438,596, hereinafter "Ueno") in view of Wahl (U.S. Patent No. 5,898,456, hereinafter "Wahl"). Applicants respectfully traverse the rejection.

Ueno and Wahl, alone or in combination, fail to teach or suggest Applicants' claim 25, as a whole. Namely, Ueno and Wahl, alone or in combination, fail to teach or suggest the specific arrangement of a plurality of head-ends where each head-end includes a server, a storage, and a manager where the manager comprises a content manager, a stream session manager, and a content session manager.

The Applicants have herein amended claim 25 to include the limitations of claim 26. In the Office Action, the Examiner asserts that claim 26 "...contains the limitations of claims 1, 23, and 24 and is analyzed as previously discussed with respect to those claims." (Office Action, Pg. 8). In response, Applicants respectfully note that the combination of claims 1, 23, and 24 does not correspond in scope to Applicants' claim 26 (now Applicants' amended claim 25). The Examiner's rejection fails to address each and every limitation of Applicants' amended claim 25. According to MPEP §2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art" (*quoting, In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)). Thus, since the Examiner's rejection fails to address each and every limitation

of Applicants' amended claim 25, the Examiner has failed to establish a prima facie case of obviousness.

Thus, Applicants submit that independent claim 25 is patentable over Ueno and Wahl under 35 U.S.C. §103. Furthermore, claims 26-34 depend, either directly or indirectly, from independent claim 25, and recite similar features thereof. As such, and at least for the same reasons as discussed above, Applicants submit that claims 26-34 also are not obvious and fully satisfy the requirements of 35 U.S.C. §103 and are patentable thereunder.

Therefore, Applicants respectfully request that the rejections be withdrawn.

CONCLUSION

Thus, Applicants submit that none of the claims, presently in the application, is anticipated or obvious under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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